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Author: Anna Brandt-Salmeri, Michalina Ilska, Anna Kołodziej-Zaleska

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BODY IMAGE IN WOMEN WITH BREAST CANCER UNDERGOING SURGICAL TREATMENT – A COMPARATIVE ANALYSIS

Anna BRANDT-SALMERI^{1*}, Michalina ILSKA², Anna KOŁODZIEJ-ZALESKA³

¹ University of Silesia, Institute of Psychology, Katowice; ann-y@wp.pl, ORCID: 0000-0002-9432-3016

² University of Silesia, Institute of Psychology, Katowice; michalina.ilska@us.edu.pl,
ORCID: 0000-0002-1733-9604

³ University of Silesia, Institute of Psychology, Katowice; anna.kolodziej@us.edu.pl,
ORCID: 0000-0001-5664-8605

* Correspondence author

Abstract: Surgery is the most basic treatment in case of breast cancer: it involves a complete or partial removal of the mammary gland. The aim of the study was to assess the body image distress and self-esteem in a group of women with breast cancer undergoing various surgical procedures. The material was collected in a group of 229 women with breast cancer who were divided into subgroups based on the surgery criterion (mastectomy, breast-conserving therapy - BCT and mastectomy with breast reconstruction). The study used the Body Image Scale by Hopwood, Fletcher, Lee and Al Ghazal (2001; Polish adaptation by Brandt-Salmeri and Przybyła-Basista), Rosenberg Self-Esteem Scale – SES (Polish adaptation by Łaguna, Lachowicz-Tabaczek and Dzwonkowska, 2007) and an original survey.

Analyses showed, among other things, significant differences in the assessment of discomfort associated with a change in body image depending on the type of surgery. The research also revealed that the assessment depended on differences between the women in terms of age and the time elapsed since the onset of treatment. Negative body image was adversely associated with self-esteem in all studied groups. Body image was significantly related to age and time elapsed since the treatment in the post-mastectomy group. At the same time, it was related only to age in the BCT group and with regards to the breast reconstruction group, the relationship concerned only elapsed time.

Keywords: breast cancer, mastectomy, breast-conserving therapy (BCT), breast reconstruction, body image, self-esteem.

Introduction

Breast cancer is the most commonly occurring malignant tumour in women. Its detection is steadily increasing. Current epidemiological records show a significant increase in incidence worldwide (Iyer, and Ring, 2017). Poland also belongs to the group of countries in which the

risk of the disease is relatively high (Bojakowska, Kalinowski, and Kowalska, 2016). Being diagnosed with an oncological disease is one of the most dramatic experiences that changes the current trajectory of life and affects holistically the concept of self and self-esteem. Positive self-assessment of patients with diagnosed breast cancer may be at risk as a result of a total change in the current dynamics of life and experiencing extreme stress; that stress is associated with the potential loss of health and life, as well as with the feeling of mutilation and deformation of the body. Interfering with the body image also harms the psychosocial identity of a woman.

The methods of treating breast cancer depend on both the malignancy of the cancer and the degree of disease progression. Cancer can be pre-invasive (the so-called stage 0), invasive (stages I-III) and spread (stage IV) (Komorowski, Wysocka, and Wysocki, 2010). The most commonly used method in stages I-III of cancer growth is the combination therapy: surgery, radiation therapy (and its specific form – brachytherapy), chemotherapy, hormone therapy and adjuvant therapy. The final form of the treatment is determined by clinical and pathological factors, the patient's general condition and her consent to therapeutic treatment (Matkowski, 2002). Surgical treatment constitutes a basic therapy for breast cancer. We can distinguish breast-conserving surgery, amputation (mastectomy), diagnostic surgery and reconstructive surgery (Madej, 2005, after: Izdebski, 2007). In Poland, a modified radical mastectomy (removal of the entire breast) is still used as the standard surgical technique, although the conservative method (removal of the tumour itself, with a tissue margin) is becoming an increasingly popular surgical treatment option.

Contemporary history saw a revolution in breast cancer treatment with the beginning of the so-called "Veronesi era." Umberto Veronesi was an Italian surgeon who made the breast conserving therapy widespread (Berner, 2012). The method is a standard operation for benign forms of less invasive tumours. It involves removal of breast tumour (the so-called tumorectomy) with a margin of healthy tissues, along with the lymphatic system of the armpit, followed by adjuvant radiotherapy of the entire area (with an additional dose for the bed after the tumour removal) (Połom, Murawa, 2010). Contraindications for this method include: pregnancy, multicentre cancer and extensive microcalcifications (Van Dongen, 2003). Van Dongen (2003, p. 218) provides the following criteria for selecting patients for the conserving therapy: patient's will to undergo this type of surgery, risk of local recurrence and possibility of a good cosmetic effect.

For many women, however, due to their clinical condition or surgeon's preferences, breast removal is the only solution. Some women after radical surgery undergo restorative procedures to reconstruct the female chest and restore the premorbid body schema. In Poland, about 3-7% of patients after mastectomy undergo a breast reconstruction; in highly developed countries, this percentage is much higher and amounts to 30-40% (Hodorowicz-Zaniewska, Raczkowska-Muraszko, Kibil, and Jankau, 2013). Although, the breast reconstruction surgery is reimbursed by the National Health Fund (NFZ), only few women decide to undergo the treatment. Contrary

to the patients' concerns, this method is safe in terms of oncology: its safety has been proven in studies on the frequency of local and distant recurrences compared to ordinary mastectomy (Połom et al., 2009). However, the breast reconstruction is not a procedure devoided of the risk of short- and long-term complications (Radu et al., 2015). The key issue is also the risk of radiotherapy at a later stage (Hodorowicz-Zaniewska et al., 2013). The breast reconstruction can be carried out in parallel with mastectomy, or after a strictly determined amount of time, conditioned by the therapeutic plan, as well as the patient's health. A more common practice is deferred reconstruction. It also does not have as many restrictions and contraindications as simultaneous reconstruction. Simultaneous reconstruction, however, is often associated with lesser shock, smaller number of body image disturbances, as well as with more satisfactory aesthetic effect (Radu et al., 2015). In qualifying for surgery, the authors repeatedly emphasize the importance of the patient's motivation to undergo this type of surgery (Hodorowicz-Zaniewska et al., 2013; Połom, Murawa, 2010). Radu et al. (2015) indicate that women are not always satisfied with the outcome, especially when their body weight is incorrect. There is often a significant difference in the appearance of both breasts and surgical correction is needed. Researchers postulate that the symmetrisation procedure, i.e. the correction of the other breast, should be performed at the same time as the reconstruction procedure itself (Radu et al., 2015).

The breast surgery, as one of the stages of cancer treatment, is always a severe crisis in any woman's life. According to the patients' experience, overwhelming anxiety, associated with a violation of one's own borders, as well as with a complete change of one's existing body schema are commonly suffered. Breast cancer is a disease that attacks a part of the body that carries social meanings, and body changed by the disease is subject to a strict assessment made in the context of socially binding canon of beauty; the broadly-understood environment in which an individual is raised constitutes an important backdrop of perceiving the consequences of breast cancer. In Poland, a model of aesthetics close to the one we find in the Western culture is present – society “expects” women to have slim and symmetrical bodies (Głębocka, 2009). Excessive focus on corporeality can contribute to stigmatization, and thus to marginalization of people bearing some kind of stigma (e.g. lack of one breast) (Brandt, and Buszman, 2016).

Striving to improve one's appearance is a natural element of the lives of women in the Western culture: hair dyeing, makeup or attentiveness to fashion are just a few examples of behaviours aimed at improving the aesthetics of their own bodies (Kondradsen, 2012). The progress in plastic and reconstructive surgery offers a considerable array of possibilities to interfere with one's appearance: the body becomes a kind of statement in social communication and a way of expressing one's own identity. Therefore, from a socio-cultural perspective, breast cancer is perceived as a crisis not only of existential, but also aesthetic nature (Brandt, 2017). The body cult creates a specific context for the breast cancer survivors in which the disease violates not only the superficial, but also the more profound spectrum of the self, constituting the "anchor of identity" for the body (Allport, 1998, in: Saxon-Obada, 2009, p. 15).

Scientific interest in the issue of corporeality has a fairly long tradition. There are many terms functioning in the science domain related to this construct: “body appearance”, “body self”, “body schema” or “body image” (Rzeszutek, and Schier, 2008). The latter is one of the most important concepts in understanding the psychological situation of women with breast cancer. The concept of body image was introduced by Schilder in 1950 (in: Britek-Matera, 2008). Body image can be understood as the “perceptions, thoughts and feelings of a person regarding his or her own body” (Grogan, 1999, p. 1). The following dimensions are present in this definition – the perceptive (body size assessment), cognitive (attractiveness assessment) and affective (emotions and reactions following the assessment) dimensions. Body image is a mental representation of one’s body and is inseparable from its assessment. It includes body awareness (mental representation of one’s body that is available to conscious perception), body boundaries (the experience of separating one’s body from the outside world) and the attitude towards the body (and its appearance) (Rzeszutek, and Schier, 2008, p. 8). Body image is multifaceted in character and largely determines an individual’s perception of and attitude towards himself or herself. Its role is particularly important in the context of traumas (Rzeszutek, and Schier, 2008). In a situation where the injury left no visible traces (e.g. in cases of sexual abuse), as well as in circumstances of violation of bodily integrity (e.g. as a result of mutilating surgeries), a dramatic change in experiencing one’s body should be expected.

Disorders of the body image can cause a level of distress that poses a threat to mental health holistically (Heidari, Shahbasi, and Ghodusi, 2015). Body image in oncology refers to the subjective experience of cancer and measuring the construct is significantly more difficult due to: possible changes occurring over time, functional and aesthetic disorders, as well as socio-cultural consequences, among others (Muzzatti, and Annunziata, 2017). Hopwood, Fletcher and Al Ghazal (2001) set out to describe disturbances in the body image in patients with breast cancer. According to the authors, the following dimensions, relevant to describing the quality of life of patients (singled out by the European Organization for Research and Treatment of Cancer) are present in women’s experience: 1) dissatisfaction with the physical appearance; 2) a sense of loss of femininity as a result of the illness and treatment; 3) avoidance of looking at one’s naked body; 4) a sense of reduced attractiveness; 5) adverse effects of treatment; 6) worries about outward appearance; 7) dissatisfaction with a scar or a prosthetic. The factors highlighted by Hopwood et al. (2001) are based on extensive clinical experience in observing the struggles of women with body image disturbances and correspond directly with the reality of patients experiencing drastic changes to body image.

Experiencing one’s own body in the face of cancer can be a very complex issue. It affects the intrapsychic, as well as the relational and social spheres. The body is undoubtedly an important psychological plane of experiencing illness and oneself. Image variability is conditioned by clinical features of cancer and the stage of the disease; the following factors are also important: the reversibility of changes experienced, their visibility and dynamics of their appearance (sudden vs. gradual) (Muzzatti, and Annunziata, 2017). In the context of treating

an oncological disease, the body becomes the object of various medical procedures that can leave a permanent or temporary mark. The most commonly used four methods of treatments (i.e. surgery, chemo-, radio- and hormone therapy) cause a number of cumbersome side effects (Kołodziejczyk, and Pawłowski, 2019).

Pharmacologically (hormonally) induced menopause can significantly interfere with the woman's perception of her own body and disrupt the experience of her femininity: it often causes uncontrolled weight gain, libido disorders or osteoporosis (Iyer, and Ring, 2017). Menstruation stopping, loss of the reproductive capacity and menopausal symptoms can be a traumatic experience for young women (Sebastian et al., 2008). Younger patients assess their appearance through the prism of aesthetics, while older ones attach more importance to fitness and endurance (Cumming, Kieren, and Cumming, 2000). Hair loss (including eyelashes and eyebrows) as a result of chemotherapy is one of the most severe consequences at the level of body image in the initial stages of struggling with the disease (Williams, and Jeanetta, 2015). Therapy with cytostatic agents can also affect body weight, causing both excessive decrease and increase in weight, depending on the patient's condition (Kołodziejczyk and Pawłowski, 2019). Baglama and Atak (2015) also mention fatigue, loss of hand dexterity, infertility and sexual problems as typical side effects of cancer therapies interfering with the experience of women's own femininity. In turn, radiation therapy primarily affects the appearance of the skin, causing burns, irritation and inflammation (Kołodziejczyk, and Pawłowski, 2019).

Studies show a wide variation in body image depending on the type of surgery. The decision to perform a surgical procedure is usually made shortly after the initial diagnosis; hence, the patient does not have time to adapt to the anticipated changes in the body (White, and Hood, 2012). As one of the participants of the qualitative research performed by Cumming, Kieren and Cumming says (2000, p. 61): "puberty and pregnancy give a woman time to adapt to the changes in the body. This change [i.e. mastectomy] occurs immediately." An unexpected diagnosis and the speed of the conduct conditioned by medical considerations can strengthen the traumatic nature of the relationship with one's own body.

Research review carried out by Lee et al. (2009) indicates the lack of unequivocal differences between body image, sexual functioning and quality of life among women after various types of treatments and surgeries. The research by Shoma et al. (2009) conducted in a group of postmenopausal women who had undergone mastectomy and conservative treatment did not show any significant differences in the affective, cognitive and behavioural components of the body image between women after breast-conserving and radical surgeries. Some researchers claim that it is the occurrence of negative side effects of cancer treatment (like chemotherapy and radiation therapy), rather than the type of surgery that most strongly affects the feeling of attractiveness and well-being of women (because they cause hair loss, skin paleness or weight gain) (Pusic et al., 2007). It is therefore worth investigating how the level of severity of body-related distress depends on the procedure, as well as what its

interrelationship with women's self-esteem is. Incidence of breast cancer causes profound changes in self-image and can involve holistic self-assessing.

Methods

The main objective of the study was to assess the severity of body image disturbances and to measure self-esteem in women with breast cancer who had undergone various types of procedures. Another goal was to examine the interrelationships between body image and self-esteem in women with breast cancer. In addition, for descriptive and interpretative purposes, it was decided to find out whether the particular groups differ in age and time elapsed since the start of treatment. It was also decided to verify whether the time factor is significantly related to self-esteem and body image.

The study group consisted of 229 women with breast cancer from entire Poland, mainly from the region of Silesia. The research was carried out in Amazons' communities ("Amazon" is a name used widely in Poland to refer to a woman after mastectomy) and in an oncology ward. Inclusion criteria were the following: age from 30 to 70 years, time elapsed since the treatment not longer than 15 years and surgery as a part of the treatment of breast cancer (i.e. radical mastectomy, conservative surgery or mastectomy with breast reconstruction).

All women were informed that the study is completely voluntary and anonymous, and that they can withdraw at any time. Written instructions explaining the purpose of the study, introducing the researcher and emphasizing the voluntary and anonymous character of the study were also included. After reading the instructions, the subjects agreed to participate in the study. Women who decided to take part in the project received a set of self-report tools (pencil and paper) which they gave to the researcher in a sealed envelope after completion. The research was approved by the ethics committee at the Faculty of Pedagogy and Psychology of the University of Silesia in Katowice (approval date: 20 June 2017).

For the purpose of the study, the women were divided into three groups based on the criterion of the type of surgery undergone as a part of breast cancer treatment: the first group consisted of women after radical mastectomy ($n = 127$), the second group included women after breast-conserving therapy ($n = 55$) and the third group consisted of women who underwent the breast reconstruction ($n = 47$).

The research made use of the Rosenberg Self-esteem Scale, Body Image Scale (Hopwood, Fletcher, Lee, and Al Ghazal, 2001) and an original survey.

The Rosenberg Self-Assessment Scale (SES) in the Polish adaptation by Łaguna, Lachowicz-Tabaczek, and Dzwonkowka (2007) is a one-dimensional tool for measuring explicit self-esteem and determining a general (positive/negative) attitude towards oneself.

The tool contains 10 items evaluated on a 4-point scale, referring to beliefs held on self-esteem. It is characterized by high reliability which in this group amounted to 0.887.

The Body Image Scale by Hopwood et al. (2001) in the Polish adaptation by Brandt-Salmeri and Przybyła-Basista has a one-dimensional structure and is used to measure the distress associated with body image in breast cancer. It consists of 10 statements evaluated on a 4-point Likert scale, with 0 meaning “not at all” and 3 meaning “yes, completely.”. The results obtained may range from 0 to 30. The content of the items refers to the typical situations of discomfort experienced by women affected by breast cancer. The tool measures the following elements of the body image: 1) dissatisfaction with physical appearance; 2) loss of femininity; 3) avoidance of looking at oneself naked; 4) feeling less attractive; 5) adverse effects of the treatment; 6) worries about appearance; 7) dissatisfaction with scars or prosthetics. The examined person assesses the statements in the context of the last week. The higher the total score, the higher the distress caused by the body image. The original scale is a single-factor scale, has satisfactory psychometric and validation properties (Cronbach’s $\alpha = .93$). In the analyses presented, reliability equalled Cronbach’s $\alpha = .94$. The original survey was devised to collect basic sociodemographic data, as well as data on the disease and treatment.

Statistical analysis was performed using PS Imago program (SPSS for Windows 25.0). The non-parametric Kruskal-Wallis Test was used to assess the significance of intergroup differences, the post-hoc analysis was corrected by the Bonferroni correction, and a correlation analysis was carried out to measure the relationships between selected variables, taking into account the Spearman’s ρ (Spearman’s rank correlation coefficient).

Results

The average age of the respondents was 53.48 years ($SD = 10.45$). According to the selection criteria, the youngest and oldest participants were 30 and 70 years old, respectively. The vast majority of women lived in cities of over 50.000 inhabitants ($n = 111$; 48%) and smaller towns ($n = 86$; 37.6%). The most numerous group consisted of women who had secondary education ($n = 109$; 47.6%); next were women who had a higher education ($n = 78$; 34.1%), 33 women (14.4%) had vocational education; and the least numerous group consisted of women who had primary education ($n = 8$; 3.5%). Married women comprised the largest group ($n = 168$; 73.4%), with widows being the second-largest ($n = 28$; 12.2%); 14 women were in informal relationships (6.1%); 13 were divorced (5.7%), and the rest were single ($n = 6$; 2.6%). The majority of the studied women had children (94.3%; $n = 216$). Over half of the surveyed women did not work ($n = 154$; 62.7%), out of whom 114 (49.8%) were retired and 36 (15.7%) had a disability pension. 74 women (32.4%) worked part-time and 4 women (1.7%) remained unemployed. Regarding the stage of cancer (which corresponds to

the level of malignancy), the most numerous group of women had stage II cancer (41.5%); slightly less numerous was the group who had stage III cancer (30.6%). Stages I and IV were the rarest cases. The average time elapsed since the diagnosis of breast cancer was 5.28 years ($SD = 4.27$). The time elapsed since the start of treatment was very similar ($M = 5.21$; $SD = 4.24$), and the average time elapsed since the end of treatment was 4.22 years ($SD = 4.12$). Most of the examined women completed the treatment during the study ($n = 142$; 62.4%) and 35.8% of them ($n = 81$) have been still undergoing cancer treatment when the study was finished. The most commonly used therapy was combination therapy (chemotherapy and/or hormone and/or radiotherapy): a total of 144 women (62.9%) underwent this systemic treatment. Radiotherapy, hormone therapy and brachytherapy as single methods were performed to a similar extent in approximately 10-15% of women. As for the type of surgery, more than half of the examined women underwent mastectomy without reconstruction ($n = 127$). Other types of surgery were breast-conserving surgery ($n = 55$) and breast reconstruction ($n = 47$). In addition, 20 women underwent simultaneous reconstruction, while the remaining women underwent deferred reconstruction: on average, the reconstruction was performed after 1.74 years ($SD = 2.28$).

The results obtained on the body image and self-assessment scales were compared in three analysed groups formed on the basis of the type of surgery. The examined women were also compared in terms of age and time that had passed since the surgery. In the light of the results obtained, the strongest distress related to body image was recorded in women after the breast reconstruction, and the lowest level of distress was found in women after breast-conserving surgery. All the women in three studied groups obtained very similar results on the self-assessment scale. Women after mastectomy were the oldest and women after breast reconstruction were the youngest in the study group. The smallest amount of time since diagnosis and treatment has elapsed in the group of women after the breast reconstruction.

Table 1 presents the complete data with the division into three aforementioned groups.

Table 1.

Recapitulation of the descriptive data from the SES and BIS questionnaires, as well as from the original survey, in all the studied subgroups

| Variables | Studied groups | <i>N</i> | <i>M</i> | <i>SD</i> | <i>min.</i> | <i>max.</i> |
|-------------|---------------------------|----------|----------|-----------|-------------|-------------|
| Body image | Mastectomy | 127 | 12.03 | 6.84 | 0.00 | 28.00 |
| | Breast-conserving surgery | 55 | 10.51 | 6.01 | 0.00 | 30.00 |
| | Reconstruction | 47 | 15.91 | 9.27 | 0.00 | 30.00 |
| | In total | 229 | 12.47 | 7.57 | 0.00 | 30.00 |
| Self-esteem | Mastectomy | 127 | 29.61 | 4.91 | 15.00 | 40.00 |
| | Breast-conserving surgery | 55 | 29.88 | 6.26 | 10.00 | 40.00 |
| | Reconstruction | 47 | 29.11 | 4.18 | 21.00 | 40.00 |
| | In total | 229 | 29.57 | 5.11 | 10.00 | 40.00 |
| Age | Mastectomy | 127 | 59.44 | 8.81 | 35.00 | 70.00 |
| | Breast-conserving surgery | 55 | 54.32 | 10.67 | 35.00 | 70.00 |
| | Reconstruction | 47 | 50.12 | 11.87 | 30.00 | 69.00 |
| | In total | 229 | 56.55 | 10.60 | 30.00 | 70.00 |

Cont. table 1.

| | | | | | | |
|------------------------------------|---------------------------|-----|------|------|------|-------|
| Time elapsed since treatment onset | Mastectomy | 127 | 5.49 | 3.96 | 0.10 | 15.00 |
| | Breast-conserving surgery | 55 | 5.98 | 4.98 | 0.10 | 15.00 |
| | Reconstruction | 47 | 3.84 | 3.99 | 0.05 | 15.00 |
| | In total | 229 | 5.25 | 4.27 | 0.05 | 15.00 |

To check whether the body image and self-esteem depend on the type of surgery performed, comparative analyses were carried out, with the use of the Kruskal-Wallis test (Table 2). Body image analyses turned out to be statistically significant. ($H = 11.53$, $df = 2$; $p = .03$). Post-hoc analysis, including the Bonferroni correction, showed that the differences between the group after reconstruction and after conservative surgery are indeed significant ($p = .001$; $p_{sk} = .003$). This result shows that women undergoing conservative surgery have significantly less body image disturbances compared to women after breast reconstruction. There were also significant differences between the group after breast reconstruction and the group after radical mastectomy ($p = .007$; $p_{sk} = .022$). This means that in the group of women after mastectomy, there are less symptoms of body image disturbances compared to women after breast reconstruction.

The results of the analysis of the possible differences in self-esteem depending on the procedure turned out to be statistically insignificant, which means that regardless of the type of treatment performed, the values on the self-esteem scale are similar ($H = 3.73$; $p = .155$)

The obtained results are presented in Table 2.

Table 2.

Body image and self-esteem of women suffering from breast cancer, depending on the type of surgery

| | Type of surgery | | | | | | | | |
|-------------|-----------------|-----------|----------------------|-----------|------------------------------|-----------|----------|----------|----------|
| | Mastectomy | | Conservative surgery | | Mastectomy w/ reconstruction | | | | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>H</i> | <i>p</i> | η^2 |
| Body image | 12.03 | 6.84 | 10.51 | 6.70 | 15.91 | 4.18 | 11.53 | .03 | <0,01 |
| Self-esteem | 29.61 | 4.91 | 29.88 | 6.26 | 29.11 | 4.18 | 5.38 | .15 | 0,02 |

Note. *M* – mean value; *SD* – standard deviation; *H* – the Kruskal-Wallis test value; *p* – significance; η^2 – effect size

In order to carry out the last research task, the Spearman's rank correlation was performed. The analyses carried out indicated that there is a significant, negative relationship between body image and self-esteem ($\rho = -.302$; $p = .001$) in the whole group. This relationship was negative and significant in all particular study groups, but its severity was different (albeit only slightly): $\rho = -.288$ ($p = .001$) in the group after mastectomy, $\rho = -.376$ ($p = .001$) in the group of women after conservative surgery, which is slightly stronger, and $\rho = -.388$ ($p = .001$) in the group after breast reconstruction, which is the strongest of the relationships.

An analysis of the correlations between body image, self-esteem, age and time elapsed since the treatment was also carried out. The analyses showed that there is a negative relationship in the group of women after mastectomy between age ($\rho = -.386$; $p = .001$) and time elapsed since treatment ($\rho = -.229$; $p = .003$). This means that the longer the time after treatment and the higher the age are, the smaller are the disturbances of the body image. In women after breast reconstruction, only negative relationship between body image and the time elapsed since treatment was recorded ($\rho = -.385$; $p = .001$). This means that the longer the time after treatment is, the smaller are the disturbances of the body image. In the group of women after conservative surgery, a negative relationship between age and body image was noted ($\rho = -.363$; $p = .003$), i.e. the higher the age is, the less disturbances occur to the body image. Self-esteem did not enter into significant relationships with either age or time elapsed since treatment in any of the subgroups.

Discussion

In the light of the results obtained, the examined women differed in terms of distress they felt in relation to the body depending on the type of surgery. The greatest number of disturbances to body image was seen in women who underwent reconstruction surgery, and the smaller in women after conservative surgery. The level of self-esteem was not related to the type of surgery and was similar in all three subgroups. Body image remained dependent on the age and duration of treatment in the studied groups, and self-esteem did not enter into significant relationships over time. Body-related distress entered into a negative relationship with self-esteem in all groups studied.

Parikh et al. (2015) indicate, based on a review of the research, that the psychological image of women with breast cancer is extremely complex and conditioned by a multitude of factors. This is confirmed by the results of the research carried out by the authors of this study – discomfort associated with the body may depend on the type of surgery, but self-esteem (being a global attitude towards oneself) does not always change significantly. Undoubtedly, any surgical procedure entails significant interference in the body boundaries and induces a certain level of distress: part of the body that was mainly associated with sexual pleasure or motherhood up to that point becomes a source of increased discomfort, often providing strong pain sensations. To understand the mechanism of the appearance of body image disturbances in cancer patients, it is worth referring to the model by White (2000, in: White, and Hood, 2011), which integrates the individual and social planes of experiencing one's own body in the context of an oncological disease. The author's concept illustrates the dynamics of body-related distress in oncological patients as a result of experiencing some form of mutilation. The noticeable change in the body (caused by the process of treating cancer) activates patterns

formed of beliefs about the gravity and importance of external appearance. As a result, there is an increased focus on the defect which leads, in turn, to a sense of inadequacy. Such cognitive activity triggers automatic thoughts that result in negative affectivity and compensatory behaviours. As indicated by the studies of Izydorczyk, Kwapniewska, Lizyńczyk and Sitnik-Warchulska (2018), in comparison with women from the general population, women after breast cancer treatment – having a poorer body image – undertake more behaviours aimed at improving their appearance, such as restrictive diets for the sake of weight control. They also use numerous avoidance strategies related to their reluctance to look at themselves in the mirror or participate in certain social situations (Hopwood, Fletcher, and Al Ghazal, 2001).

Women with breast cancer who have already underwent various types of treatments may find their ideas about the views expressed by others very important. To a much higher degree than men, women tend to equate self-esteem with self-perceived attractiveness and with what they think others' opinions are about their appearance (Fallon, 1990). Higgins's self-discrepancy theory (1987) allows us to understand the distorted body image as a disproportion between the imagined actual state and the expectations towards oneself (both own and perceived). Domains of the "self" can be expressed from one's own perspective or the perspective of "significant others", i.e. from the perspective of the imagined ideal. The states of the "self" play an important regulatory role in creating behaviours towards the body (Izydorczyk, 2014). The greater the discrepancy between the domains of the "self", the higher the level of distress. People suffering from cancer must therefore integrate their own, often much idealized ideas with the actual state of affairs which is associated with numerous social, relational or emotional limitations. The experience of breast cancer causes a number of transformations in the area of psychosocial identity: what takes place is a kind of redefinition of oneself through the prism of the disease (Smith, Klassen, Coa, and Hannum, 2016) or the change experienced at the body level. Thus, undergoing surgery becomes a starting point for adopting a new identity – some women begin to refer to themselves as "Amazons". The aforementioned phenomena are clearly exemplified by the so-called "half-woman complex" (cf. Białek, Bolek, Kowalczyk, and Lew-Starowicz, 2015) or the notion of "self-stigma" that is related to the inclusion of the social stigma into self-identity (Buszman and Brandt, 2016). Breast removal often requires redefining oneself in physical ("Am I still female?") and mental terms ("Who am I now as a woman?") (Brandt, and Przybyła-Basista, 2016, p. 24). The outcome of this internal dialogue is important for adaptation in both intrapsychic and relational terms. Unsuccessful results of the considerations may lead to body image disturbances.

The slightest discomfort associated with one's own body image was recorded in women after BCT, which is a result coherent with contemporary empirical reports. The literature on the subject indicates that breast-conserving therapy, due to its lesser extensiveness (and therefore lower level of body deformation) creates the most psychologically favourable situation for

women (Ueda et al., 2008). Its use may coexist with a higher level of satisfaction with one's own body and better sexual functioning compared to women after radical mastectomy (Yilmazer et al., 1994). The lesser extensiveness of the surgery does not cause the trauma of a complete amputation and may allow patients to maintain a relatively unchanged body schema. In this group, as in women after mastectomy, it was noticed that higher age was associated with a decrease in the severity of interference from the body. According to the results obtained by other researchers, the experience of illness or body changes (associated with aging as well) is a more normative event for older women than it is for younger women (Salmon, Manzi, and Valori, 1996).

Mastectomy is a procedure that disturbs balance in a total way: at the physical (violation of the body borders), mental (experiencing extreme stress) and social (isolation or inability to perform specific roles) levels (see Izydorczyk, Kwapniewska, Lizyńczyk, and Sitnik-Warchulska, 2018). It significantly violates bodily integrity, and thus has a negative impact on body image, including disturbing the sense of symmetry (forcing the necessity of wearing a prosthesis) or efficiency of the hand on the operated side. The presence of both breasts allows one to maintain body balance; therefore, breast removal (partial or complete) is experienced both as real (disturbing the schema and changing the centre of gravity), as well as symbolic loss (connected with a series of meanings ascribed to female breasts) (see Brandt-Salmeri, and Przybyła-Basista, 2018). The discomfort in this group associated with body image is therefore perfectly understandable, and the result obtained is consistent with contemporary reports. It was found in the authors' own research that for the group of women after mastectomy, as for women undergoing reconstruction, body image disturbances remain dependant on the time that elapsed since the onset of treatment. In the light of the result obtained, over time, a decrease in body discomfort is noted. This result constitutes another voice in the researchers' discussion over the indicated relationship. There are no definitive conclusions regarding the relationship between the perception of the body image and the time that elapsed since the diagnosis. Some studies suggest the following dynamics: the onset of the disease and the struggle with treatment are associated with lesser attention being given to the aesthetic aspects (e.g. Marcinkowska et al., 2012). It is probably time to mobilize energy to fight the life-threatening illness and abandon aesthetic values for the sake of survival. In subsequent stages of coping, i.e. when the acute phase is over, a profound feeling of the inadequacy of one's body takes hold of the patient. Hartl et al. (2003) speak about the deterioration of body image over time, and Arora et al. (2001) point to the opposite tendency, claiming that as time goes on, the assessment of one's body should improve.

The results of the authors' original research seem surprising: they show that the highest level of distress coming from the body image is recorded in the group of women undergoing reconstruction surgery. One could expect a decrease in discomfort along with the reconstruction of the female thorax. However, empirical data on possible improvements in body image are inconsistent (see Fang, Chang, and Shu, 2014). An analysis of the literature shows that in

a group of women who underwent simultaneous breast amputation and reconstruction all at the same time, more than half of them did not experience a decrease in their own perceived attractiveness, which would be typical for this type of treatment. The lack of the decrease in the sense of femininity was manifested, among other things, in no shame in seeing oneself naked or being seen by the partner (Pockaj et al., 2009). The long-term effects of undergoing reconstruction are still a subject of research, unfortunately very rarely tackled in Poland (Mazurek, 2012). The research carried out by Brandt and Przybyła-Basista (2016) shows that the decision to undergo breast reconstruction is mainly motivated by the desire to regain a sense of comfort and to reduce the feeling of having been mutilated. Apart from medical reasons, abandoning the decision to undergo reconstruction is associated with the fear of pain and disease progression (Brandt, and Przybyła-Basista, 2016). Conducting a simultaneous mastectomy and breast reconstruction seems to have, in most cases, clearly positive effects on the woman's psyche (Ominyi, and Nwodom, 2014), although reconstruction failures or an unnatural sensation may cause a sense of dissatisfaction with one's body (Kołodziejczyk, and Pawłowski, 2019). Perhaps the short amount of time elapsed since the surgery (less than two years in the case of the study group), possible postoperative complications, failure in meeting aesthetic expectations, an unnatural cosmetic effect, or prolonged struggle with the disease and treatment crises may constitute important mediating variables. These women could also experience the feeling of loss associated with amputation, and could still be in the midst of the process of adapting to the new body schema. The age of the women could also be relevant: the group after reconstructive surgery consisted of women of about 50 years of age on average; this could mean that some of them also began to experience physiological menopause and this factor could also complicate the experience of their own corporeality. However, to better understand the discomfort felt by these patients more research is needed, preferably in a longitudinal project.

The examined women did not differ in terms of self-esteem; the important conclusion is that discomfort associated with experiencing one's own body does not have to be associated with a decrease in global self-esteem. Although mastectomy is a deformation of the chest which often involves permanent physical disability, the fact of removing a breast can also be experienced in an ambivalent way. The complexity of the psychological situation lies in the fact that mastectomy, while deforming woman's body and reducing her sense of attractiveness, is also a life-saving procedure (see Izydorczyk et al., 2018). On the one hand, as the research shows, such a procedure negatively affects the sense of one's own femininity and attractiveness (Trusson, Pinck, and Roy, 2016), but on the other hand, removal of the body part attacked by the disease may be connected with greater psychological comfort (Matthews, and Semper, 2017). What's more, experiencing a serious illness may activate well-being and cause a higher level of appreciation for life or the search for life's meaning (Ilska, Kołodziej-Zaleska, 2018). In our study, self-esteem entered into moderately negative relationships with body image

disturbances. The nature of these relationships and their direction is worth exploring in further research, as the study of these relationships can have great practical significance.

Interest in body image in a group of women with breast cancer seems to be fully justified and valuable for clinical practice. White and Hood (2011) believe that caring for bodily issues is a vital element of psycho-oncological help for oncological patients who are much more exposed to anxiety and doubts concerning their self-esteem and attractiveness.

Summary

1. The type of surgery carried out differentiates the level of body image disturbances; however, it is not related to the self-esteem of women with breast cancer. The extent of the procedure, as well as any additional surgical interventions may therefore affect the amount of distress associated with body image.
2. Women after breast-conserving therapy show the smallest number of disturbances at the body image level – it could mean that this method is the most beneficial therapeutic option in terms of bodily issues. Presumably, the low extent of the procedure is associated with a sense of preservation of the current body schema and boundaries.
3. The greatest number of distress symptoms was recorded in the group of women after breast reconstruction. This result can be interpreted as a reaction to the loss or dissatisfaction with the final cosmetic effect. Due to the relatively short time elapsed since the procedure, the examined women may still be in the process of adapting to the new body schema. The issue of potential menopause is not without significance; however, understanding the obtained results requires further study.
4. It seems reasonable to provide psychological assistance for women considering breast reconstruction, both with regards to women preparing for breast reconstruction surgery and for those who had already undergone the surgery.
5. Body image of women with breast cancer at each stage of treatment is worth taking into account in psycho-oncological care. Interaction should include both psychoeducation and possible therapeutic intervention in every case of body image disturbance.

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